U.S. Apln. No. 09/726,867
Reply to Office Action mailed December 1, 2008

PATENT
Attorney Docket No. 450100-02887

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application. An identifier indicating the status of each claim is provided.

Listing of Claims

1.   (Currently Amended) A broadcasting system comprising:

a broadcasting station for broadcasting digital content containing attribute information indicating an attribute thereof and an electronic program guide (EPG); and

a plurality of reception apparatuses having:

reception means for receiving said digital content and said attribute information broadcast from the broadcasting station,

a recording medium for recording the received digital contents and the received attribute information,

output means for outputting the received digital contents, and

selection means for allowing a user to select the digital contents via a filtering process by comparing selection information indicating user preferences with attribute information assigned to the digital contents,

said attribute information is expressed with an n-dimensional vector A comprising attribute items as elements each identifying attribute intensities for the digital content,

wherein an order and a number of the attribute items is predetermined;

said selection information is expressed with an n-dimensional vector S comprising user preference items as elements,

Frommer Lawrence & Haug LLP
745 Fifth Avenue New York, NY 10151
212-588-0800
Customer Number 20999

-3 of 16-

00619512

U.S. Apln. No. 09/726,867
Reply to Office Action mailed December 1, 2008

PATENT
Attorney Docket No. 450100-02887

wherein each element identifies a preference intensity of a corresponding element

in the n-dimensional vector A,

wherein ~~each~~ an element of vector A ~~may identify~~ identifies a positive attribute

intensity when the user has demonstrated a positive preference for the element and indentifies a

negative attribute intensity when the user has demonstrated a negative preference for the

element, ~~and may identify a negative attribute intensity,~~

wherein ~~each~~ an element of vector S identifies a positive preference intensity

when the user has demonstrated a positive preference for the element and indentifies a negative

preference intensity when the user has demonstrated a negative preference for the element, and

~~may identify a positive preference intensity and may identify a negative preference intensity, and~~

wherein said plurality of reception apparatuses include a selection means for: (1)

performing an inner product operation between the vector A and the vector S; and (2)

determining whether to select the digital content based on the result of the inner product

operation.

2. – 9. (Canceled)

10.   (Currently Amended) A reception apparatus comprising:

reception means for receiving digital content containing electronic program guide

(EPG) and attribute information transmitted from a content provider;

a recording medium for recording the received digital content and the attribute

information;

Frommer Lawrence & Haug LLP
745 Fifth Avenue New York, NY 10151
212-588-0800
Customer Number 20999
-4 of 16-

00619512

output means for outputting the received digital content; and

selection means for allowing a user to select the digital content via a filtering

process by comparing selection information indicating user preferences with attribute

information attached to the digital content,

said attribute information is expressed with an n-dimensional vector A comprising

attribute items as elements each identifying attribute intensities for the digital content,

wherein an order and a number of the attribute items is predetermined;

said selection information is expressed with an n-dimensional vector S comprising

user preference items as elements,

wherein each element identifies a preference intensity of a corresponding element

in the n-dimensional vector A,

wherein an element of vector A identifies a positive attribute intensity when the

user has demonstrated a positive preference for the element and indentifies a negative attribute

intensity when the user has demonstrated a negative preference for the element,

wherein an element of vector S identifies a positive preference intensity when the

user has demonstrated a positive preference for the element and indentifies a negative preference

intensity when the user has demonstrated a negative preference for the element, and

~~wherein each element of vector A may identify a positive attribute intensity and~~

~~may identify a negative attribute intensity,~~

~~wherein each element of vector S may identify a positive preference intensity and~~

~~may identify a negative preference intensity, and~~

U.S. Apln. No. 09/726,867
Reply to Office Action mailed December 1, 2008

PATENT
Attorney Docket No. 450100-02887

wherein said selection means performs an inner product operation between the vector A and the vector S, and determines whether to select the digital content based on the result of the inner product operation.

11.   (Previously Presented) The reception apparatus according to claim 10, wherein said selection means finds a selection value P based on the following equation and selects the digital content based on a size of the selection value P as follows:

$$A = (a1, a2, a3, \ldots, an)$$

$$S = (s1, s2, s3, \ldots, sn)$$

$$P = \frac{A \cdot S}{|A| \cdot |S|}$$

where

$$A \cdot S = \sum_{k=1}^{n} a_k S_k$$

$$|A| = \sqrt{\sum_{k=1}^{n} a_k^2}$$

$$|S| = \sqrt{\sum_{k=1}^{n} S_k^2}$$

in which neither A nor S is a zero vector.

12.   (Previously Presented) The reception apparatus according to claim 10, wherein said selection information's vector S is found from a vector A of attribute information attached to a plurality of digital contents selected by the user.

Frommer Lawrence & Haug LLP
745 Fifth Avenue New York, NY 10151
212-588-0800
Customer Number 20999

-6 of 16-

00619512

U.S. Apln. No. 09/726,867
Reply to Office Action mailed December 1, 2008

PATENT
Attorney Docket No. 450100-02887

13.   (Previously Presented) The reception apparatus according to claim 12, wherein said selection information's vector S is found according to the following equation:

$$S = \frac{1}{M} \sum_{k=1}^{M} A_k$$

where M is assumed to be a number of digital contents selected by the user and an attribute vector for the K-th digital content selected by the user is assumed to be: Ak = (a1k, a2k, a3k, ..., ank).

14.   (Previously Presented) The reception apparatus according to claim 12, wherein said selection information's vector S is found according to the following equation:

$$S = \frac{1}{M} \sum_{k=L-M+1}^{L} A_k$$

where M is assumed to be a number of windows for finding a vector S, L is assumed to be a start point for selecting the plurality of digital contents for finding the vector S, and an attribute vector for the K-th digital content selected by the user is assumed to be: Ak = (a1k, a2k, a3k, ..., ank).

15.   (Previously Presented) The reception apparatus according to claim 12, wherein said selection information's vector S is found by averaging vectors A for attribute information attached to the plurality of digital contents reproduced by the user for a specified time.

Frommer Lawrence & Haug LLP
745 Fifth Avenue New York, NY 10151
212-588-0800
Customer Number 20999

-7 of 16-

00619512

16.   (Previously Presented) The reception apparatus according to claim 12,

wherein said selection information's vector S is found by averaging vectors A for attribute

information attached to the plurality of digital contents reserved by the user.

17.   (Previously Presented) The reception apparatus according to claim 12,

wherein said selection information's vector S is found by averaging vectors A for attribute

information attached to the plurality of digital contents reproduced by the user for a specified

time, averaging vectors A for attribute information attached to the plurality of digital contents

reserved by the user, assigning a weight to each average, and combining the weights.

18.   (Previously Presented) The reception apparatus according to claim 10,

wherein said selection means selects the digital content based on a vector S of the selection

information corresponding to a plurality of users.

19. (Currently Amended) A reception method comprising:

receiving digital content containing electronic program guide (EPG) and attribute

information transmitted from a content provider;

recording the received digital content and the attribute information;

outputting the received digital content;

allowing a user to select the digital content via a filtering process by comparing

selection information indicating user preferences with attribute information attached to the

digital content;

expressing the attribute information with an n-dimensional vector A comprising attribute items as elements each identifying attribute intensities for the digital content,

wherein an order and a number of the attribute items is predetermined;

expressing the selection information with an n-dimensional vector S comprising user preference items as elements,

identifying a preference intensity for each element of a corresponding element in the n-dimensional vector A,

~~wherein each element of vector A may identify a positive attribute intensity and may identify a negative attribute intensity,~~

~~identifying a preference intensity for each element of vector S,~~

~~wherein each element of vector S may identify a positive preference intensity and may identify a negative preference intensity, and~~

<u>wherein an element of vector A identifies a positive attribute intensity when the user has demonstrated a positive preference for the element and indentifies a negative attribute intensity when the user has demonstrated a negative preference for the element,</u>

<u>wherein an element of vector S identifies a positive preference intensity when the user has demonstrated a positive preference for the element and indentifies a negative preference intensity when the user has demonstrated a negative preference for the element, and</u>

performing an inner product operation between the vector A and the vector S; and

determining, based on the inner product operation, whether to select the digital content.